“PROBLEM SOLVING ABILITY IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ATTITUDE TOWARDS MATHEMATICS, MENTAL HEALTH AND MATHEMATICS ANXIETY IN ADILABAD DISTRICT – A STUDY ”

PROPOSAL SUBMITTED TO THE SWAMI RAMANAND TEERTH MARATHWADA **UNIVERSITY**
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
DEGREE OF **DOCTOR OF PHILOSOPHY IN EDUCATION**

PUPPALA RAMULU,

Ph.D., RESEARCH SCHOLAR

Under the supervision of

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED

JULY, 2016

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1 INTRODUCTION

Education is an important process in man's life. It begins from birth and continues till death, and thus it is never ending process. It is through education that child develops his thinking and reasoning, problem solving and creativity, intelligence and aptitude, positive sentiment and skills, good values and attitudes. Education helps the child in making adjustment with his own self and other members of society. Education brings about national integration. It promotes national life discipline which is essential from the point of view of successful national life.

Mathematics is the real sense is a science of space and quantity that helps us in solving the problems of life. Needing numeration and calculations. It provides opportunist for the intellectual gymnastic of the man's inherent powers. It is an exact science and involves high cognitive abilities and powers. Mathematics is taken as the chest filled up with so many valuable tools concerning with the operations like measuring weighting, counting etc. and helps in proper understanding of the natures work and complicated problems of life converting them into its language of signs and symbols.

According to Locke mathematics was to settle in the mind a habit of reasoning. Hence mathematics education gained a lot of importance in education teaching mathematics is to help the child to qualify the ideas precisely in his thinking and to develop utilize spatial concepts in his day to day life.

2. NEED AND IMPORTANCE OF THE RESEARCH:

Students are the backbone of the educational process. Education is a process and acts also as an instrument to bring out the innate behavior of the individual. The destiny of a nation lies in its classrooms. The strength of our nation depends on the student's ability to be well-educated, responsible, well-adjusted youth who will step forward when the adult generation passes on to retirement. The students of today are the youths of tomorrow and future citizens of the country, therefore it is their responsibility to see that they are physically, mentally, emotionally and educationally healthy. The needful steps taken at this period ensures a healthy democracy in the country.

The problem solving ability should be in positive direction for the citizens of tomorrow. The growth of the nation and their prosperous mainly depends on the hands of the students.

The students of today are the youths of tomorrow and future citizens of the country, therefore it is the responsibility of teachers, society and government to see that they are physically, mentally, emotionally and educationally healthy. The needful steps taken at this period ensures a healthy democracy in the country. Mathematics is very important subject; it helps the student's development in many facets.

The ultimate value of educating an individual lies in the extent to which he has learned or is in the process of learning fits him adequate adoption to his own life needs and to the demands of the society. By his school and out of school experiences he is continuously being molded into the kind of person with the development of the child. An individual is not born adjusted or maladjusted. It is his physical, mental and emotional potentialities, which are influenced an directed by the factors of the environment in which he finds himself, mental health gradually develops.

Mental health plays an important role in the total development of the children. If problem arises in mental health it can have adverse effect upon the learning behavior of a child. These problems which student occupies in his mind, not only hinder him from doing whatever he is supposed to do at a particular moment but also sometimes lead to indiscipline and in some cases even to antisocial manifestation. The poor mental health leads to juvenile delinquency.

There are several specific problems, which the youth in our country face. Several conditions in the family and educational setting may also create many problems that require mental health. The need for a diagnostic appraisal of mental health of the students is established in the modern age. The global picture of the student unrest and resulting aggressive behavior and

violence have invited the social scientists to do something in this direction, otherwise the younger generation will bring disaster to the society.

The socio-cultural, economic, educational, vocational, marital and political scenarios have much more aggravated the problem of student mental health in their daily life. Especially mental health at the period of adolescence is playing a vital role in one's life. The period of adolescence is a transitional period. The adolescence is a shift from childhood to adulthood. He has moved from dependency to an urge for being independent. Sometimes the conflicting demands of the parents and the teachers make him puzzled over his role and position in the society. This age of adolescence is known as the age of stress and strain.

The students complain that they do not have correct models before them and consequently they fail to develop a correct value system and attitude. Since the educational environment is polluted, the students develop a big gap between their real and ideal self.

Another problem relating to adolescent's mental health is the excessive concentration on generation gap resulting in indifference and being away. This problem has been aggravated by the effect of western culture. The brief note on the diversified problems of mental health which our adolescents are facing in a much more serious manner at present is an eye opener. The educationists and psychologist's tensions through which, the present generation is passing. Preventing and corrective – measures are to be adopted with all seriousness, so that our young generation may adopt healthy ways of life. They have to be counseled at an early stage, if they have some problem of adjustment in any walk of life. Because of this, measurement of student mental health becomes essential, that too at the time of transitional period. Hence an attempt has been made to study the, "mental health of Secondary school students"

The investigator has identified the Secondary students studying in the Secondary students situated in Adilabad district as sample. Since problem solving ability is being widely and in all walks of life, the researcher is interested in studying the problem solving ability in mathematics of Secondary students in relation to their attitude towards mathematics, mental health and mathematics anxiety.

3. STATEMEENT OF THE PROBLEM:

"PROBLEM SOLVING ABILITY IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ATTITUDE TOWARDS MATHEMATICS, MENTAL HEALTH AND MATHEMATICS ANXIETY IN ADILABAD DISTRICT- A STUDY".

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1. To study the problem solving ability in mathematics of the Secondary school students.
2. To study the attitude towards mathematics of the Secondary school students.
3. To study the mental health of the Secondary school students.
4. To study the mathematics anxiety of the Secondary school students.
5. To study if there is any significant difference in problem solving ability in mathematics between the Secondary school boys and girls
6. To study if there is any significant difference in attitude towards mathematics in mathematics between the secondary school boys and girls

7. To study if there is any significant difference in mental health in mathematics between the Secondary school boys and girls
8. To study if there is any significant difference in mathematics anxiety between the Secondary school boys and girls.

5. VARIABLE:

Variable are that which is measured observed and manipulated by the research investigator for the purpose of conducting research.

INDIPEDENT VARIABLE:

It can defined as that variable which the researcher selects, observes, manipulates and measures its effect upon observed phenomenon, because independent variable bring change in other factors, it is called as “stimulus variable” . Since it is introduced to bring about a change, it is called as ‘Input variable.

In the present study, the medium of instruction, gender and locality under and place are taken as independent variable.

DEPENDENT VARIABLE:

It can be defined as that variable which the investigator selects, observes, manipulates and measures to determine the effect of independent variable upon it. The factor in which the changes brought about out put variable of response variable.

In the present study, the investigator has taken problem solving, mental health, mathematics anxiety and attitude as a dependent variable.

6. HYPOTHESES OF THE STUDY:

The following were the hypotheses for the present investigation formulated from the framed objectives.

1. The problem solving ability in mathematics of the Secondary school students is high.

2. The attitude towards mathematics of the Secondary school students is favorable.
3. The mental health of the Secondary school students is high.
4. The mathematics anxiety of the Secondary school students is high.
5. There is no significant difference in problem solving ability in mathematics between the secondary school boys and girls
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7. OPERATIONAL DEFINITION:

Definitions of technical terms are as follows

1. Problem solving : Engaging in task for which the solution is not known in advance of secondary school students of Adilabad district
2. Anxiety: a feeling of worry , nervousness , or unease about something with an uncertain outcome of secondary school students of Adilabad district
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5. Secondary school students : a secondary school students often referred to as a high school or senior high school is a school wihich provides secondary

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6. Mathematics : the study of numbers , shapes and space using reason and usually a special system of symbols and rules for organizing them.

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The present study will be delimited to

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c. The present study considered only English medium and Telugu medium students.
d. The present study considered only Rural and urban secondary school students of Adilabad district
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Reference: Jyoti Kumari. (2016)., "Problem solving ability of senior secondary school students". EDUTRACKS. V.15, n.7, Pp.21-23.

10. SAMPLE OF THE STUDY:

A sample is a small proportion of a population selected for observation and analysis. By observing the characteristics of the sample, one can make certain influences about the characteristics of the population from which it is drawn. The process of sampling helps to go in depth and makes it possible to draw valid inferences or generalization on basis of careful observation of variables with a relatively small proportion of the population.

In the present study, random sampling was selected. Random sampling means that every number of a sample. Selected from the total population in such a manner that all members of the population have essentially the same probability of bearing selected.

SELECTION OF SAMPLE:

For the present study the researcher selected as many as 1000 Secondary Students will be selected as the sample using the simple random sampling techniques

11. METHOD OF RESEARCH:

The success of any research study depends on the selection and utilization of proper research methods. Methods selected should be feasible, pre-planned, well understood and should always be appropriate to the problem under investigation and the king of data necessary for its solution. Educational research is classified in to three major types

Historical Method, Descriptive Method, Experimental Method

DESCRIPTIVE METHOD:

In this method, the research analyses or observes the present educational trends, event conditions with a view to a have future planning Descriptive research studies are designed to obtain pertinent and precise information concerning the current status of phenomena and

wherever possible to draw valid general conclusions from the facts discovered. Descriptive studies may be classified in the following three categories.

Survey Studies, Inter relationship studies, Developmental studies.

SURVEY STUDIES:

Survey studies are conducted to collect descriptions of existing phenomena with the interest of employing data to justify current conditions and practices or to make more intelligent plans for improving them. Survey studies describe and specify studies describe and specify the properties of educational phenomena.

In the present study. Survey method was used.

STEPS OF SURVEY STUDIES:

1. Selection of the sample of subject or institutions using appropriate sampling techniques.
2. Administration of objective, valid and reliable tools for the collection of the data.
3. Computation of statistics.
4. Estimation of parameter.

CHARACTERISTICS OF SURVEY STUDIES:

1. It is concerned with educational problems.
2. It gathers data from relatively large sample.
3. It concerned with the population properties not the sample.
4. It is both quantitative. Quantitative means the data can be analyzed in terms of numbers.
5. Qualitative means the events, trends and practices can be analyzed scientifically without the use of numbers.
6. It is uncontrolled study, no restrictions of any variables.

12. POPULATION OF STUDY:

Secondary school students of Adilabad District forms the population of the study.

13. TOOLS:

The tools to be used for the present study are as follows

a. Problem solving ability in mathematics test constructed and validated by investigator.

b. Attitude towards mathematics scale constructed and validated by the investigator.

c. Mental health inventory (MHI) constructed and validated by Peter Becker (1987).

d. Mathematics anxiety scale constructed and validated by the investigator.

14. STATISTICAL TECHNIQUES:

The following statistical techniques will be used in the present study

- Percentage analysis
- Descriptive analysis
- Differential analysis and
- Co-relational analysis.

15. DURATION OF THE RESEARCH

Sr. No.	Particular	Working Day
1	Proposal	15 Days
2	A study of related literature & research	60 Days
3	Sampling design & Methodology	30 Days
4	To prepare data collection tools	90 Days
5	A study of research Direction	60 Days
6	Data collection	120 Days
7	Data analysis	60 Days
8	Proposal Writing	120 Days
9	To discussion for Proposal	30 Days
10	Proposal Binding	15 Days

16. CHAPTERIZATION PLAN :

Sr No.	Chapter
1	Introduction
2	Review of related literature & Research
3	Methodology of the study
4	Analysis of Data
5	Summary & calculation

17. REFERENCES:

1. Best, John. W., (1963), “Research in Education”, Prentice hall of India (p.t) Ltd, New Delhi.
2. Kothari C.R.(1985) , “Research methodology and method of Techniques”,wiely Estern Ltd., New Delhi.
3. Lokesh Kaul (1988) ,“Methodology and Education Research”,2nd Edition, Vikas Publications, New Delhi.
4. Asthana B.N.(1995), “Elements of statistics”, Chaitanya Publishing House, Allahabad.
5. Opie, Clive (2004) , “Doing Educational Research ” , Vistar Publication New Delhi.
6. Richardson F.C. Suinn R.M “The Mathematics anxiety Rating scale ”, Journal of Counseling psychology .

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14. STATISTICAL TECHNIQUES:

The following statistical techniques will be used in the present study

- Percentage analysis
- Descriptive analysis
- Differential analysis and
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“PROBLEM SOLVING ABILITY IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ATTITUDE TOWARDS MATHEMATICS, MENTAL HEALTH AND MATHEMATICS ANXIETY IN ADILABAD DISTRICT – A STUDY ”

PROPOSAL SUBMITTED TO THE SWAMI RAMANAND TEERTH MARATHWADA **UNIVERSITY**
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
DEGREE OF **DOCTOR OF PHILOSOPHY IN EDUCATION**

PUPPALA RAMULU,

Ph.D., RESEARCH SCHOLAR

Under the supervision of

Dr. D. M. MUGALE

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13	PROPOSAL WORK PLAN
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1 INTRODUCTION

Education is an important process in man's life. It begins from birth and continues till death, and thus it is never ending process. It is through education that child develops his thinking and reasoning, problem solving and creativity, intelligence and aptitude, positive sentiment and skills, good values and attitudes. Education helps the child in making adjustment with his own self and other members of society. Education brings about national integration. It promotes national life discipline which is essential from the point of view of successful national life.

Mathematics is the real sense is a science of space and quantity that helps us in solving the problems of life. Needing numeration and calculations. It provides opportunist for the intellectual gymnastic of the man's inherent powers. It is an exact science and involves high cognitive abilities and powers. Mathematics is taken as the chest filled up with so many valuable tools concerning with the operations like measuring weighting, counting etc. and helps in proper understanding of the natures work and complicated problems of life converting them into its language of signs and symbols.

According to Locke mathematics was to settle in the mind a habit of reasoning. Hence mathematics education gained a lot of importance in education teaching mathematics is to help the child to qualify the ideas precisely in his thinking and to develop utilize spatial concepts in his day to day life.

2. NEED AND IMPORTANCE OF THE RESEARCH:

Students are the backbone of the educational process. Education is a process and acts also as an instrument to bring out the innate behavior of the individual. The destiny of a nation lies in its classrooms. The strength of our nation depends on the student's ability to be well-educated, responsible, well-adjusted youth who will step forward when the adult generation passes on to retirement. The students of today are the youths of tomorrow and future citizens of the country, therefore it is their responsibility to see that they are physically, mentally, emotionally and educationally healthy. The needful steps taken at this period ensures a healthy democracy in the country.

The problem solving ability should be in positive direction for the citizens of tomorrow. The growth of the nation and their prosperous mainly depends on the hands of the students.

The students of today are the youths of tomorrow and future citizens of the country, therefore it is the responsibility of teachers, society and government to see that they are physically, mentally, emotionally and educationally healthy. The needful steps taken at this period ensures a healthy democracy in the country. Mathematics is very important subject; it helps the student's development in many facets.

The ultimate value of educating an individual lies in the extent to which he has learned or is in the process of learning fits him adequate adoption to his own life needs and to the demands of the society. By his school and out of school experiences he is continuously being molded into the kind of person with the development of the child. An individual is not born adjusted or maladjusted. It is his physical, mental and emotional potentialities, which are influenced an directed by the factors of the environment in which he finds himself, mental health gradually develops.

Mental health plays an important role in the total development of the children. If problem arises in mental health it can have adverse effect upon the learning behavior of a child. These problems which student occupies in his mind, not only hinder him from doing whatever he is supposed to do at a particular moment but also sometimes lead to indiscipline and in some cases even to antisocial manifestation. The poor mental health leads to juvenile delinquency.

There are several specific problems, which the youth in our country face. Several conditions in the family and educational setting may also create many problems that require mental health. The need for a diagnostic appraisal of mental health of the students is established in the modern age. The global picture of the student unrest and resulting aggressive behavior and

violence have invited the social scientists to do something in this direction, otherwise the younger generation will bring disaster to the society.

The socio-cultural, economic, educational, vocational, marital and political scenarios have much more aggravated the problem of student mental health in their daily life. Especially mental health at the period of adolescence is playing a vital role in one's life. The period of adolescence is a transitional period. The adolescence is a shift from childhood to adulthood. He has moved from dependency to an urge for being independent. Sometimes the conflicting demands of the parents and the teachers make him puzzled over his role and position in the society. This age of adolescence is known as the age of stress and strain.

The students complain that they do not have correct models before them and consequently they fail to develop a correct value system and attitude. Since the educational environment is polluted, the students develop a big gap between their real and ideal self.

Another problem relating to adolescent's mental health is the excessive concentration on generation gap resulting in indifference and being away. This problem has been aggravated by the effect of western culture. The brief note on the diversified problems of mental health which our adolescents are facing in a much more serious manner at present is an eye opener. The educationists and psychologist's tensions through which, the present generation is passing. Preventing and corrective – measures are to be adopted with all seriousness, so that our young generation may adopt healthy ways of life. They have to be counseled at an early stage, if they have some problem of adjustment in any walk of life. Because of this, measurement of student mental health becomes essential, that too at the time of transitional period. Hence an attempt has been made to study the, "mental health of Secondary school students"

The investigator has identified the Secondary students studying in the Secondary students situated in Adilabad district as sample. Since problem solving ability is being widely and in all walks of life, the researcher is interested in studying the problem solving ability in mathematics of Secondary students in relation to their attitude towards mathematics, mental health and mathematics anxiety.

3. STATEMEENT OF THE PROBLEM:

"PROBLEM SOLVING ABILITY IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ATTITUDE TOWARDS MATHEMATICS, MENTAL HEALTH AND MATHEMATICS ANXIETY IN ADILABAD DISTRICT- A STUDY".

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The following were the objectives framed for the present investigation.

1. To study the problem solving ability in mathematics of the Secondary school students.
2. To study the attitude towards mathematics of the Secondary school students.
3. To study the mental health of the Secondary school students.
4. To study the mathematics anxiety of the Secondary school students.
5. To study if there is any significant difference in problem solving ability in mathematics between the Secondary school boys and girls
6. To study if there is any significant difference in attitude towards mathematics in mathematics between the secondary school boys and girls

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8. To study if there is any significant difference in mathematics anxiety between the Secondary school boys and girls.

5. VARIABLE:

Variable are that which is measured observed and manipulated by the research investigator for the purpose of conducting research.

INDIPEDENT VARIABLE:

It can defined as that variable which the researcher selects, observes, manipulates and measures its effect upon observed phenomenon, because independent variable bring change in other factors, it is called as “stimulus variable” . Since it is introduced to bring about a change, it is called as ‘Input variable.

In the present study, the medium of instruction, gender and locality under and place are taken as independent variable.

DEPENDENT VARIABLE:

It can be defined as that variable which the investigator selects, observes, manipulates and measures to determine the effect of independent variable upon it. The factor in which the changes brought about out put variable of response variable.

In the present study, the investigator has taken problem solving, mental health, mathematics anxiety and attitude as a dependent variable.

6. HYPOTHESES OF THE STUDY:

The following were the hypotheses for the present investigation formulated from the framed objectives.

1. The problem solving ability in mathematics of the Secondary school students is high.

2. The attitude towards mathematics of the Secondary school students is favorable.
3. The mental health of the Secondary school students is high.
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Definitions of technical terms are as follows

1. Problem solving : Engaging in task for which the solution is not known in advance of secondary school students of Adilabad district
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5. Secondary school students : a secondary school students often referred to as a high school or senior high school is a school wihich provides secondary

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Reference: Jenny K Hyun., Brican CQ., Femine madon and shave lustily (2006), "Graduate students mental health: needs assessment and utilization of considering service," Journal of college student development, v.47, n.3, pp.,247-266.

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Review: Jyoti Kumari (2016)., studied about the problem solving ability of senior higher school students and found that there is no significant difference in the level of problem solving ability among Senior Secondary School Students in relation to type of schools. There is a significant difference in the level of problem solving ability among senior secondary school students in relation to their stream. There is an significant difference in the

level of problem solving ability among senior secondary school students in relation to their gender.

Reference: Jyoti Kumari. (2016)., "Problem solving ability of senior secondary school students". EDUTRACKS. V.15, n.7, Pp.21-23.

10. SAMPLE OF THE STUDY:

A sample is a small proportion of a population selected for observation and analysis. By observing the characteristics of the sample, one can make certain influences about the characteristics of the population from which it is drawn. The process of sampling helps to go in depth and makes it possible to draw valid inferences or generalization on basis of careful observation of variables with a relatively small proportion of the population.

In the present study, random sampling was selected. Random sampling means that every number of a sample. Selected from the total population in such a manner that all members of the population have essentially the same probability of bearing selected.

SELECTION OF SAMPLE:

For the present study the researcher selected as many as 1000 Secondary Students will be selected as the sample using the simple random sampling techniques

11. METHOD OF RESEARCH:

The success of any research study depends on the selection and utilization of proper research methods. Methods selected should be feasible, pre-planned, well understood and should always be appropriate to the problem under investigation and the king of data necessary for its solution. Educational research is classified in to three major types

Historical Method, Descriptive Method, Experimental Method

DESCRIPTIVE METHOD:

In this method, the research analyses or observes the present educational trends, event conditions with a view to a have future planning Descriptive research studies are designed to obtain pertinent and precise information concerning the current status of phenomena and

wherever possible to draw valid general conclusions from the facts discovered. Descriptive studies may be classified in the following three categories.

Survey Studies, Inter relationship studies, Developmental studies.

SURVEY STUDIES:

Survey studies are conducted to collect descriptions of existing phenomena with the interest of employing data to justify current conditions and practices or to make more intelligent plans for improving them. Survey studies describe and specify studies describe and specify the properties of educational phenomena.

In the present study. Survey method was used.

STEPS OF SURVEY STUDIES:

1. Selection of the sample of subject or institutions using appropriate sampling techniques.
2. Administration of objective, valid and reliable tools for the collection of the data.
3. Computation of statistics.
4. Estimation of parameter.

CHARACTERISTICS OF SURVEY STUDIES:

1. It is concerned with educational problems.
2. It gathers data from relatively large sample.
3. It concerned with the population properties not the sample.
4. It is both quantitative. Quantitative means the data can be analyzed in terms of numbers.
5. Qualitative means the events, trends and practices can be analyzed scientifically without the use of numbers.
6. It is uncontrolled study, no restrictions of any variables.

12. POPULATION OF STUDY:

Secondary school students of Adilabad District forms the population of the study.

13. TOOLS:

The tools to be used for the present study are as follows

a. Problem solving ability in mathematics test constructed and validated by investigator.

b. Attitude towards mathematics scale constructed and validated by the investigator.

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The following statistical techniques will be used in the present study

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The following were the objectives framed for the present investigation.

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For the present study the researcher selected as many as 1000 Secondary Students will be selected as the sample using the simple random sampling techniques

11. METHOD OF RESEARCH:

The success of any research study depends on the selection and utilization of proper research methods. Methods selected should be feasible, pre-planned, well understood and should always be appropriate to the problem under investigation and the king of data necessary for its solution. Educational research is classified in to three major types

Historical Method, Descriptive Method, Experimental Method

DESCRIPTIVE METHOD:

In this method, the research analyses or observes the present educational trends, event conditions with a view to a have future planning Descriptive research studies are designed to obtain pertinent and precise information concerning the current status of phenomena and

wherever possible to draw valid general conclusions from the facts discovered. Descriptive studies may be classified in the following three categories.

Survey Studies, Inter relationship studies, Developmental studies.

SURVEY STUDIES:

Survey studies are conducted to collect descriptions of existing phenomena with the interest of employing data to justify current conditions and practices or to make more intelligent plans for improving them. Survey studies describe and specify studies describe and specify the properties of educational phenomena.

In the present study. Survey method was used.

STEPS OF SURVEY STUDIES:

1. Selection of the sample of subject or institutions using appropriate sampling techniques.
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12. POPULATION OF STUDY:

Secondary school students of Adilabad District forms the population of the study.

13. TOOLS:

The tools to be used for the present study are as follows

a. Problem solving ability in mathematics test constructed and validated by investigator.

b. Attitude towards mathematics scale constructed and validated by the investigator.

c. Mental health inventory (MHI) constructed and validated by Peter Becker (1987).

d. Mathematics anxiety scale constructed and validated by the investigator.

14. STATISTICAL TECHNIQUES:

The following statistical techniques will be used in the present study

- Percentage analysis
- Descriptive analysis
- Differential analysis and
- Co-relational analysis.

15. DURATION OF THE RESEARCH

Sr. No.	Particular	Working Day
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“PROBLEM SOLVING ABILITY IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ATTITUDE TOWARDS MATHEMATICS, MENTAL HEALTH AND MATHEMATICS ANXIETY IN ADILABAD DISTRICT – A STUDY ”

PROPOSAL SUBMITTED TO THE SWAMI RAMANAND TEERTH MARATHWADA **UNIVERSITY**
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
DEGREE OF **DOCTOR OF PHILOSOPHY IN EDUCATION**

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Under the supervision of

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED

JULY, 2016

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2	NEED AND IMPORTANCE OF RESEARCH
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1 INTRODUCTION

Education is an important process in man's life. It begins from birth and continues till death, and thus it is never ending process. It is through education that child develops his thinking and reasoning, problem solving and creativity, intelligence and aptitude, positive sentiment and skills, good values and attitudes. Education helps the child in making adjustment with his own self and other members of society. Education brings about national integration. It promotes national life discipline which is essential from the point of view of successful national life.

Mathematics is the real sense is a science of space and quantity that helps us in solving the problems of life. Needing numeration and calculations. It provides opportunist for the intellectual gymnastic of the man's inherent powers. It is an exact science and involves high cognitive abilities and powers. Mathematics is taken as the chest filled up with so many valuable tools concerning with the operations like measuring weighting, counting etc. and helps in proper understanding of the natures work and complicated problems of life converting them into its language of signs and symbols.

According to Locke mathematics was to settle in the mind a habit of reasoning. Hence mathematics education gained a lot of importance in education teaching mathematics is to help the child to qualify the ideas precisely in his thinking and to develop utilize spatial concepts in his day to day life.

2. NEED AND IMPORTANCE OF THE RESEARCH:

Students are the backbone of the educational process. Education is a process and acts also as an instrument to bring out the innate behavior of the individual. The destiny of a nation lies in its classrooms. The strength of our nation depends on the student's ability to be well-educated, responsible, well-adjusted youth who will step forward when the adult generation passes on to retirement. The students of today are the youths of tomorrow and future citizens of the country, therefore it is their responsibility to see that they are physically, mentally, emotionally and educationally healthy. The needful steps taken at this period ensures a healthy democracy in the country.

The problem solving ability should be in positive direction for the citizens of tomorrow. The growth of the nation and their prosperous mainly depends on the hands of the students.

The students of today are the youths of tomorrow and future citizens of the country, therefore it is the responsibility of teachers, society and government to see that they are physically, mentally, emotionally and educationally healthy. The needful steps taken at this period ensures a healthy democracy in the country. Mathematics is very important subject; it helps the student's development in many facets.

The ultimate value of educating an individual lies in the extent to which he has learned or is in the process of learning fits him adequate adoption to his own life needs and to the demands of the society. By his school and out of school experiences he is continuously being molded into the kind of person with the development of the child. An individual is not born adjusted or maladjusted. It is his physical, mental and emotional potentialities, which are influenced an directed by the factors of the environment in which he finds himself, mental health gradually develops.

Mental health plays an important role in the total development of the children. If problem arises in mental health it can have adverse effect upon the learning behavior of a child. These problems which student occupies in his mind, not only hinder him from doing whatever he is supposed to do at a particular moment but also sometimes lead to indiscipline and in some cases even to antisocial manifestation. The poor mental health leads to juvenile delinquency.

There are several specific problems, which the youth in our country face. Several conditions in the family and educational setting may also create many problems that require mental health. The need for a diagnostic appraisal of mental health of the students is established in the modern age. The global picture of the student unrest and resulting aggressive behavior and

violence have invited the social scientists to do something in this direction, otherwise the younger generation will bring disaster to the society.

The socio-cultural, economic, educational, vocational, marital and political scenarios have much more aggravated the problem of student mental health in their daily life. Especially mental health at the period of adolescence is playing a vital role in one's life. The period of adolescence is a transitional period. The adolescence is a shift from childhood to adulthood. He has moved from dependency to an urge for being independent. Sometimes the conflicting demands of the parents and the teachers make him puzzled over his role and position in the society. This age of adolescence is known as the age of stress and strain.

The students complain that they do not have correct models before them and consequently they fail to develop a correct value system and attitude. Since the educational environment is polluted, the students develop a big gap between their real and ideal self.

Another problem relating to adolescent's mental health is the excessive concentration on generation gap resulting in indifference and being away. This problem has been aggravated by the effect of western culture. The brief note on the diversified problems of mental health which our adolescents are facing in a much more serious manner at present is an eye opener. The educationists and psychologist's tensions through which, the present generation is passing. Preventing and corrective – measures are to be adopted with all seriousness, so that our young generation may adopt healthy ways of life. They have to be counseled at an early stage, if they have some problem of adjustment in any walk of life. Because of this, measurement of student mental health becomes essential, that too at the time of transitional period. Hence an attempt has been made to study the, "mental health of Secondary school students"

The investigator has identified the Secondary students studying in the Secondary students situated in Adilabad district as sample. Since problem solving ability is being widely and in all walks of life, the researcher is interested in studying the problem solving ability in mathematics of Secondary students in relation to their attitude towards mathematics, mental health and mathematics anxiety.

3. STATEMEENT OF THE PROBLEM:

"PROBLEM SOLVING ABILITY IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ATTITUDE TOWARDS MATHEMATICS, MENTAL HEALTH AND MATHEMATICS ANXIETY IN ADILABAD DISTRICT- A STUDY".

4. OBJECTIVES OF THE STUDY:

The following were the objectives framed for the present investigation.

1. To study the problem solving ability in mathematics of the Secondary school students.
2. To study the attitude towards mathematics of the Secondary school students.
3. To study the mental health of the Secondary school students.
4. To study the mathematics anxiety of the Secondary school students.
5. To study if there is any significant difference in problem solving ability in mathematics between the Secondary school boys and girls
6. To study if there is any significant difference in attitude towards mathematics in mathematics between the secondary school boys and girls

7. To study if there is any significant difference in mental health in mathematics between the Secondary school boys and girls
8. To study if there is any significant difference in mathematics anxiety between the Secondary school boys and girls.

5. VARIABLE:

Variable are that which is measured observed and manipulated by the research investigator for the purpose of conducting research.

INDIPEDENT VARIABLE:

It can defined as that variable which the researcher selects, observes, manipulates and measures its effect upon observed phenomenon, because independent variable bring change in other factors, it is called as “stimulus variable” . Since it is introduced to bring about a change, it is called as ‘Input variable.

In the present study, the medium of instruction, gender and locality under and place are taken as independent variable.

DEPENDENT VARIABLE:

It can be defined as that variable which the investigator selects, observes, manipulates and measures to determine the effect of independent variable upon it. The factor in which the changes brought about out put variable of response variable.

In the present study, the investigator has taken problem solving, mental health, mathematics anxiety and attitude as a dependent variable.

6. HYPOTHESES OF THE STUDY:

The following were the hypotheses for the present investigation formulated from the framed objectives.

1. The problem solving ability in mathematics of the Secondary school students is high.

2. The attitude towards mathematics of the Secondary school students is favorable.
3. The mental health of the Secondary school students is high.
4. The mathematics anxiety of the Secondary school students is high.
5. There is no significant difference in problem solving ability in mathematics between the secondary school boys and girls
6. There is no significant difference in attitude towards mathematics in mathematics between the secondary school boys and girls
7. There is no significant difference in mental health in mathematics between the Secondary school boys and girls.
8. There is no significant difference in mathematical anxiety in mathematics between the Secondary school boys and girls

7. OPERATIONAL DEFINITION:

Definitions of technical terms are as follows

1. Problem solving : Engaging in task for which the solution is not known in advance of secondary school students of Adilabad district
2. Anxiety: a feeling of worry , nervousness , or unease about something with an uncertain outcome of secondary school students of Adilabad district
3. Mental health : a person' s condition with regard to their psychological and emotional well-being of secondary school students of Adilabad district .
4. Attitude : a feeling or opinion about something of secondary school students of Adilabad district
5. Secondary school students : a secondary school students often referred to as a high school or senior high school is a school wihich provides secondary

education between the ages of 11 to 19 depending on location after primary school and before higher education

6. Mathematics : the study of numbers , shapes and space using reason and usually a special system of symbols and rules for organizing them.

8. LIMITATIONS OF THE STUDY :

The present study will be delimited to

a. Certain selected demographic variables only
b. Secondary school students from the Adilabad District Only.
c. The present study considered only English medium and Telugu medium students.
d. The present study considered only Rural and urban secondary school students of Adilabad district
e. The present study is based on the results obtained by 500 rural and 500 urban secondary school students only.

9. REVIEW OF RELATED LITERATURE :

I. STUDIES RELATED TO ATTITUDE TOWARDS MATHEMATICS:

Review: Kogce., et al., (2009) examined the elementary school students' attitude towards mathematics in terms of some variables and found that there is no significant difference between attitude towards mathematics among male and female students.

Reference: Kogce, D., Yildiz, C., Aydin, M., and Altindag, R., (2009), "Examining elementary school students' attitudes towards mathematics in terms of some variables", *Procedia Social and Behavioral Sciences,* v.1, n.1, pp.291-295.

II. STUDIES RELATED TO MATHEMATICS ANXIETY:

Review: William J. Truttschel, (2002) studied about the mathematics anxiety at Chippewa valley technical college and found that the average level of math anxiety for the survey sample at Chippewa valley technical college is not significantly higher than other similar educational institutions. A moderately negative correlation was found between grade point average and level of math anxiety. A positive correlation was found between students' dislike of mathematics and math anxiety levels.

Reference: William J. Truttschel, (2002), "Mathematics anxiety at Chippewa valley technical college", A Research Paper Submitted in Partial Fulfillment of the Requirements for the Master of Science Degree, University of Wisconsin – Stout, Menomonie, WI.

III. STUDIES RELATED TO MENTAL HEALTH:

Review: Jenny.K. Hyun., et al., (2006) studied about the graduate students mental health and found that self reported mental health need were significantly and regarding related to confidence about ones' financial states etc.,

Reference: Jenny K Hyun., Brican CQ., Femine madon and shave lustily (2006), "Graduate students mental health: needs assessment and utilization of considering service," Journal of college student development, v.47, n.3, pp.,247-266.

IV. STUDIES RELATED TO PROBLEM SOLVING ABILITY:

Review: Jyoti Kumari (2016)., studied about the problem solving ability of senior higher school students and found that there is no significant difference in the level of problem solving ability among Senior Secondary School Students in relation to type of schools. There is a significant difference in the level of problem solving ability among senior secondary school students in relation to their stream. There is an significant difference in the

level of problem solving ability among senior secondary school students in relation to their gender.

Reference: Jyoti Kumari. (2016)., "Problem solving ability of senior secondary school students". EDUTRACKS. V.15, n.7, Pp.21-23.

10. SAMPLE OF THE STUDY:

A sample is a small proportion of a population selected for observation and analysis. By observing the characteristics of the sample, one can make certain influences about the characteristics of the population from which it is drawn. The process of sampling helps to go in depth and makes it possible to draw valid inferences or generalization on basis of careful observation of variables with a relatively small proportion of the population.

In the present study, random sampling was selected. Random sampling means that every number of a sample. Selected from the total population in such a manner that all members of the population have essentially the same probability of bearing selected.

SELECTION OF SAMPLE:

For the present study the researcher selected as many as 1000 Secondary Students will be selected as the sample using the simple random sampling techniques

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